
10GHz sked with Sicily

Posted by IW9ARO - 2009/04/21 00:27

Hi, MW friends, I'm located in east Sicily (near Catania, JM77NN), and I wonder if there is any possibility to arrange a sked on 3cm sked with Greece. With my homebuilt equipment I've already made about 380Km distance over the sea, so West Peloponnisos or SV9 looks possible. I would be happy to find correspondents in Greece, and I thought that posting on this discussion board would be a good idea.

73, IW9ARO -Johnny-

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Re:10GHz sked with Sicily

Posted by neazoi - 2009/04/21 09:44

Hello IW9ARO,

I am greatly interested in 3cm contacts. I have already my homebrew equipment ready but I have not made any contacts since there are not many people to contact in Greece in 3cm.

Currently I have not so much power but because I am using a short focal length dish, radio line of sight ssb communications should be possible at that distance.

I would like some time to get organised (put my dishes and equipment on the terrace and align them) and then we can arrange to make this contact.

To be honest I do not know anyone that has made this contact before, so this should be quite interesting.

You may see an older photo of my not-finished equipment as it was a year ago here: <http://neazoi.com/lab/dsc01149.jpg>

It is much more complicated now and finished. I am waiting to publish the transverter construction in DUBUS and then I am going to publish the design in the Greek Microwave Group too.

I am also having a TWT amplifier and I only need the PSU for it to amplify my signal in order to be sure that long distance contacts will be done. The transverter supports plug and play this TWT amplifier because it has an external TX amplifier option, so that won't be a problem.

If we do not manage to make this contact with my available output power, we will do so using this TWT amplifier.

many 73

de SW3ORA

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Re:10GHz sked with Sicily

Posted by IW9ARO - 2009/04/23 08:21

I'm happy to get this reply. Even without a TWT, if you have 50-100mW, we can make a contact. Which is your locator? can you be prepared this saturday25 or sunday26?

73, IW9ARO -Johnny-

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Re:10GHz sked with Sicily

Posted by neazoi - 2009/04/23 09:49

IW9ARO,

I live in Patras, in western Greece by the sea, so I believe that is good for our contact. I do not think I will be ready this weekend, the weather is bad and there is no way I can manage to make the setup by this weekend, I am afraid you have to wait for a month or so, I apologise for that :(

The transmitter is about 100mW but I need to find an ssb transceiver for 1.4MHz (not difficult) to drive the transverter SSB.

If we manage to make this contact I suggest we publish it on DUBUS as they will be interested I think.

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Re:10GHz sked with Sicily

Posted by IW9ARO - 2009/04/23 19:49

100mW SSB are OK for a 400Km over the sea. We already did it using 40cm dishes. I proposed 25 or 26 April because I'm in holiday during those days, but I understood you can't be ready in such a short time, so we can postpone the sked

for early summer (it will be even easier because I will move to a house at 50m from the sea). I'm very interested to know more about your transverter design, that looks quite unconventional. Perhaps you have access to my profile and you can contact me at my e-mail privately or by skype using my callsign. Anyway, I hope others readers will be interested (if equipped) to arrange a sked with me on 25/26April or anytime later. 73, IW9ARO -Johnny-

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Re:10GHz sked with Sicily

Posted by neazoi - 2009/04/24 09:53

Early Summer contact would be the ideal for me. I have arranged to find an HF ssb rig on 160m (mine is on 11m), which fits well the transverter.

The transverter uses only coaxial components, to be easy for everyone to make. Not all amateurs have access to expensive and hard to find pcb's in these frequencies and they do not have the aparatus to print these pcb's, so the idea was to construct a simple-to-make transverter using coaxial components.

I do not know if anyone lives in western Greece by the sea but this should be the best area to make a contact to Italy as many interesting things can happen to the signal near the surface of the sea where the humidity is high.

My transmitter dish is a 40cm short focal length one. You can see details here:

http://www.microwave.gr/index.php?option=com_content&task=view&id=26&Itemid=43

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Re:10GHz sked with Sicily

Posted by neazoi - 2009/05/04 13:55

Hello, I have managed to find the transceiver. I am missing a WR90-to-WR90 (WG16-to-WG16) flexible waveguide. Have you got any to borrow?

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Re:10GHz sked with Sicily

Posted by SV9OFO - 2009/07/18 06:22

I have some equipment that came from TV STL surplus.

If I manage to master it and if the expected drift (500 KHz) is curable (via a pll, oven or similar techniques) I'll get in contact with you, to arrange that sked.

I am truly interested in microwave bands, and I feel truly happy that I have some reason to pursue the challenge!

When in summer, the path can be easily covered in 144 or 432 MHz via tropo for establishing a V-U SSB backchannel. This ensures the attempt will exhaust all possibilities for successful 3cm qso's.

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Re:10GHz sked with Sicily

Posted by neazoi - 2009/07/19 12:49

I think you should also give a try to CW.

CW has much less in bandwidth than ssb and you can expect much less noise in your receiver (provided you have a narrow filter installed in it). The result is that you may achieve much greater distances than ssb.

I would be interested in a communication try with Crete using CW, as there is no line of sight path between Grete and Patras.

Currently I am missing a flexible WR90/WG16 piece of waveguide, to complete my transverter. If you have any I would be glad to buy it from you.

I will present the transverter in the 3rd or 4th issue of dubus 2009 (SW3ORA) and then I will post it in the Greek Microwave Group for the members to see.

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Re:10GHz sked with Sicily

Posted by IW9ARO - 2009/08/05 10:56

Hello, I'm ready with my 10GHz SSB equipments at my summer location at 100m from the sea. I'll stay there for the whole August and early September.
Locator is JM77NI, just in front of Greece! If someone is available for a contact in this period please reply on this forum to arrange a sked.
73, IW9ARO

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Re:10GHz sked with Sicily

Posted by SV9OFO - 2009/08/10 01:17

Well, there is a spot on KM25LJ (paralia fodele) which looks like there is a LOS between Sicily and Crete.

LOS to Catania from Fodele beach is unobstructed, has a path length of 913km, and all we can ask for is a really strong tropo duct, to add to the tropo scatter, I guess.

Heading from my point of view is 287,77 deg and from your point of view is 101,8 deg.

So far I have

>1.3GHz to 10GHz upconverter w.horn p.out at #00 mW (was used as a TV stl so it should be big), 10 GHz to 1,3GHz downconverter w. horn, 2X1m professional grade dishes.

I need to calibrate them and I should be ready to go.

i will keep you informed.

Has it be done b4, Sicily 2 Crete on 10GHz?

Can it be done from 10m from sea with 100mW and a 1m dish from KM25LJ? Is is unobstructed enough? Fresnel zone has enough clearance from nearby coasts? I don't know, pse advise!

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Re:10GHz sked with Sicily

Posted by neazoi - 2009/08/11 00:21

just a quick note about fresnel zones, to help you both:

http://en.wikipedia.org/wiki/Fresnel_zone

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Re:10GHz sked with Sicily

Posted by IW9ARO - 2009/08/20 20:54

West Crete would be my best target from here! And do not worry about Fresnel, world record has been done from beaches... and I did almost 400Km over the sea already (but yes, 900Km is much more...)

Does your equipment support narrow-band modes(SSB)? If you tune-up your gear and make sure it works by the beginning of september we must try.

Bye, IW9ARO

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Re:10GHz sked with Sicily

Posted by neazoi - 2009/08/21 11:01

OE3MZC from Corfu and 9H1M from Malta made an ATV contact on 1296MHz a few days ago. The distance is about 650Km and it is probably a world record on ATV on 1296MHz.

See the relevant video here: <http://www.youtube.com/watch?v=L5ODXLTCsgo>

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Re:10GHz sked with Sicily

Posted by SV9OFO - 2009/12/26 15:20

Well, I am deep into searching of LO techniques stable enough to allow for SSB modes. I already have some ways to make the LO's (dual upconversion) but I am worried about phase noise. QRL is heavy here, I am doing my best to set up all required gear till start of spring.

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Re:10GHz sked with Sicily

Posted by neazoi - 2009/12/28 01:23

What is your system topology? transverter, direct conversion etc. There are some good articles about low phase noise systems techniques, in the articles section.

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